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**Geotropism of hypocotyls and cotyledons.**—SCHÜTZE,<sup>38</sup> working in PFEFFER's laboratory, has published a paper on the geotropic behavior of hypocotyls and cotyledons. The work adds some facts to that of COPELAND<sup>39</sup> on this subject. For hypocotyls, *Phaseolus multiflorus*, *P. vulgaris*, *Helianthus annuus*, *Cucurbita Pepo*, *Ricinus communis*, *Vicia Faba*, and others were used; and for cotyledons, *Phoenix dactylifera* and *Yucca angustifolia*. Both the cotyledons and hypocotyls showed positive geotropic reaction after the removal of the root tips. Traumatropic response followed a one-sided injury of the root tip. The change from positive to negative geotropism always begins at the base of the hypocotyl and travels upward. The zone of most rapid growth always accompanies this zone of change.—WILLIAM CROCKER.

**Ovule of Bruniaceae.**—This is a family of 12 genera, endemic in South Africa, and one of the group of families that forms a penumbra about the Saxifragaceae. So isolated does it seem, that SAXTON<sup>40</sup> has investigated the structure of the ovule and embryo sac. He finds a single massive integument, and in *Brunia* an embryo sac completely replacing the nucellus and packed with starch, which almost completely disappears before fertilization; in *Berzelia* and *Staavia* a little of the basal nucellar tissue persists. The solitary megaspore mother cell and the tetrad present nothing unusual; and, so far as the ovular structures are concerned, there is nothing suggestive of relationship. Certainly there is no suggestion of an "ancient type," especially since a single massive integument is a feature of the Sympetalae.—J. M. C.

**Evaporation in Jamaica.**—Observations made by BROWN<sup>41</sup> on the grounds of the Cinchona Laboratory of the New York Botanical Garden in the Blue Mountains of Jamaica, extending over a period of 25 days in May and June 1910, give an unexpectedly low rate of evaporation even in an open grassy clearing (8.2 cc. daily); while in a densely wooded ravine it was less than 1 cc. daily from the standard Livingston atmometer. The use of the non-rain-absorbing atmometer is here reported for the first time, and its results show that, while the general relation of two or more evaporation rates remains the same as for the ordinary atmometer, the numerical factor differs and must approach more nearly to an absolute determination when the non-rain-absorbing instrument is used.—GEO. D. FULLER.

**Mistletoe.**—YORK<sup>42</sup> has made an anatomical and ecological study of the American mistletoe, confirming several well known facts, such as its dissemi-

<sup>38</sup> SCHÜTZE, RUD., Ueber das geotropische Verhalten des Hypokotyls und des Cotyledons. Jahrb. Wiss. Bot. 48:377-423. 1910.

<sup>39</sup> BOT. GAZETTE 31:410-422. 1901.

<sup>40</sup> SAXTON, W. T., The ovule of the Bruniaceae. Trans. Roy. Soc. S. Africa 21:27-31. figs. 8. 1910.

<sup>41</sup> BROWN, WM. H., Evaporation and plant habitats in Jamaica. Plant World 13:268-272. 1910.

<sup>42</sup> YORK, H. H., The anatomy and some of the biological aspects of the "American mistletoe," *Phoradendron flavescens* (Pursh) Nutt. Bull. Univ. Texas 120. pls. 13. 1909.